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An Economic Analysis of Tobacco Export in India (1974-2014)

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Abstract

The tobacco entry of European colonial powers imported tobacco in India, first introduced in India as a product to be smoked; tobacco gradually began to be used in several other forms, in India depends on the performance of its constituent states of all major indicators of performance are collected, compiled and analyzed separately for state wise in India. The statistical data has been used namely, time serious analysis, compound growth rate and multiple regression model. However, there is an increasing unless each state performs on its own, India cannot do well at all. The main causes tobacco is affected cancer of various of body like mouth, throat, lungs, stomach, kidney, bladder etc., there is 'one' tobacco related death every 8 seconds. Tobacco leads to heart and blood vessel diseases, heart stroke (Brain attack), and peripheral vascular disease (gangrene of legs). These kinds of diseases are due to the consumption of demerit tobacco products. Tobacco plays a significant role in the Indian Economy as it contributes substantially in terms of excise revenue, export revenue and employment. Tobacco is effective; measures and tobacco have been used to address in all forms of consumption, not only cigarettes. In particular, this would mean dealing with the economic and political difficulties of taxing, or otherwise controlling, Bidis and other non-cigarette forms of tobacco consumption in India. The study shows on significant trends within the duration of bidi smoking and number of bidis smoked. Tobacco leads to clearing of forests for cultivation, stripping fuel wood for curing and forest resources for packaging thus damaging the environment. Tobacco depletes the soil nutrients at a very rapid rate and displaces the indigenous flora and fauna thus becoming a source of pests for other crops.

Key Words: European Clonical, major indicators, One tobacco related to death every 8 seconds, Tobacco leads to heart and blood vessel diseases, Indian economy, Excise revenue and employment, Economic and Political difficulties, Consumption, Time serious analysis, Compound growth rate and Multiple regression model.

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Introduction

Tobacco is a plant within the genus *Nicotiana* of the Solanaceae (nightshade) family. Tobacco is manufactured from dried tobacco leaves include cigars, cigarettes, snuff, pipe tobacco, chewing tobacco and flavored [shisha tobacco](#). The uses of tobacco include plant bioengineering and ornamentals, while chemical components of tobacco are used in some pesticides and medications. Tobacco cultivation is similar to other agricultural products. The tobacco [seeds](#) are sown in [cold frames](#) or hotbeds to prevent attacks from insects, and then transplanted in to the fields. Tobacco is an annual crop, which can be harvested mechanically or by hand. After the harvested, tobacco is stored for curing, either by hanging, bundling or placing in large piles with tubular vents to allow the heat to escape from the center. Curing allows for the slow [oxidation](#) and degradation of [carotenoids](#), causing the product to take on properties that are usually attributed to the "smoothness" of the smoke. The tobacco is processed into its various forms for consumption and most of the cigarettes incorporate flue-cured tobacco, which produces a milder, more inhalable smoke. Use of inhalable, flue-cured tobacco is one of the principal reasons smoking causes lung cancer and other diseases associated with smoke inhalation.

Types of tobacco uses in India

1. Smoked forms of tobacco use

Bidis, Cigarettes, Cigars, Cheroots, Chuttas, Dhumti, Pipe, Hooklis, Chillum, Hookah.

2. Smokeless forms of tobacco use

- Paan (betel quid) with tobacco, Paan masala with tobacco.
- Tobacco, areca nut and slaked lime preparations, Mainpuri tobacco, Mawa, Khaini, chewing tobacco, snus and gutkha.
- Tobacco products for application: Mishri, Gul, Bajjar, Lal dantmanjan, Gudhaku, Creamy snuff, Tobacco water and Nicotine chewing gum.

Tobacco and Indian Economy

- Tobacco cultivation has sustained despite of socially disapproval among the people because of domestic demand (beedy tobacco) and the international market (flue-cured Virginia tobacco).
- Tobacco plays a significant role in the Indian economy as it contributes substantially in terms of excise revenue, export revenue and employment.
- India is the World's second largest producer of tobacco and also the second largest consumer of unmanufactured tobacco. It is a major exporter of unmanufactured tobacco.
- The total social costs of tobacco products exceed the direct outlay on them, owing to morbidity, mortality and negative externalities are associated with the consumption of tobacco products.

Uses of Tobacco

Smokeless tobacco is very common in India. Tobacco or tobacco-containing products are chewed or sucked as a quit or applied to gums, or inhaled.

Khaini:

This is one of the most common methods of chewing tobacco. Dried tobacco leaves are crushed and mixed with slaked lime and chewed as a quid. The practice of keeping the quid in the mouth between the cheeky and gums causes most cancers of the gums – the most common mouth cancer in India.

Gutkha:

This is rapidly becoming the most popular form of chewed tobacco in India. It is very popular among teenagers and children because it is available in small packets (convenient for a single use), uses flavoring agents and scents, and inexpensive (as low price as Re 1/- equivalent to 2 cents). Gutkha consists of areca nut (betel nut) pieces coated with powdered tobacco, flavoring agents, and other “secret” ingredients that increase the addiction potential. Gutkha use is responsible for increased causes of oral cancers and other disorders of the mouth and teeth among teenagers and children.

Causes of Tobacco

- Doctors at the Tata Memorial Hospital (TMH) are reporting a rise in pre-cancerous lesions in the mouth, which they are convinced are caused by chewing tobacco. Mouth cancer has a 10-year incubation period. It is very hard to treat and spreads very quickly.
- As health experts know that children started using Gutkha six or seven years ago, they fear an epidemic of oral cancer will soon hit India. They say 11 and 12-year-old children are getting pre-cancerous growth after just two years of chewing.
- Dentists and trading standards officers in the United Kingdom are now trying to highlight the health risks involved in chewing tobacco as Gutkha slowly makes its way to Europe.

Statement of the Problem

- At the present studies are estimating the price responsiveness of cigarette demand to cigarette prices found that young people and lower-income groups are the most price-responsive.
- Tobacco use kills nearly six million people worldwide each year. According to the World Health Organization (WHO) estimates, globally, there were 100 million premature deaths due to tobacco in the 20th century, and if the current trends of tobacco use to continue, this number is expected to rise to 1 billion in the 21st century.
- Tobacco is deadly in any form or disguise. Scientific evidence has not correct measured that exposure to tobacco smoke causes death, disease and disability.
- According to the International Agency for Research on Cancer (IARC) monograph, there is sufficient evidence in humans that tobacco smoking causes cancer of the gums lung, oral cavity, and hypo-pharynx, nasal cavity and paranasal sinuses, larynx, esophagus, stomach, pancreas, liver, kidney (body and pelvis), ureter, urinary bladder, uterine cervix and bone marrow (myeloid leukemia). Colorectal cancer is seen to be associated with cigarette smoking, although there is insufficient evidence for it to be causal.
- Ninety percent of all lung cancer deaths in 80% of men and women are caused by smoking.
- Causal associations have been clearly established between active smoking and adverse reproductive outcomes, chronic obstructive pulmonary disease and cardiovascular diseases.
- Studies on bidi smoking, the most common form of tobacco smoking in India, provide evidence toward causality of it as carcinogenic substance. Case–control studies demonstrate a

Strong association of bidi smoking with cancers at various sites, such as oral cavity (including subsides), pharynx, larynx, esophagus, lung and stomach. Almost all studies show significant trends with duration of bidi smoking and number of bidis smoked. Tobacco leads to clearing of forests for cultivation, stripping fuel wood for curing and forest resources for packaging thus damaging the environment. Tobacco depletes the soil nutrients at a very rapid rate and displaces the indigenous flora and fauna thus becoming a source of pests for other crops.

Review of Literature

Swati Sivastava et al (2010), analyzed that the correlates of tobacco quit attempts and cessation in the adult population of India says that Nearly 275 million adults (15 years above) use tobacco in India which contributes substantially to potentially preventable morbidity and mortality. There is good evidence from developed country settings that use of tobacco cessation services influences intention to quit with a higher population of attempts being successful in fully quitting. There is little evidence about cessation and quitting behavior in the Indian context. This study assesses the social-demographic characteristics and cessation services used by adults who attempted to quit smoked and smokeless tobacco and who were successful in quitting. The study was a cross-sectional secondary data analysis of the Global Adult Tobacco Survey. India 2009-10 there was 25,175 ever tobacco users aged 21 years and included in the study. Bivariate and multivariate logistic regression analysis was done to determine associations utilized with attempts to quit tobacco and successful quitting. Younger age groups had higher odds of quit attempts than all except the oldest age group but also had the lowest odds of successful quitting health care provider advice was positively associated with attempts to quit. But both advice and use of cessation aids were not associated with successful quitting. This study provides the first national evidence on the relationships between quitting attempts and successful quitting with social-demographic characteristics, health care provider advice and use of cessation services. The findings of the study have import and implications for scaling up tobacco cessation services in India and indicate a need to re-examine in greater detail the effective of socio-demographic factors. Type of tobacco product used and levels if dependency on quitting. Health system factors such as coverage and accessibility of cessation services, types of service and its duration and follow up also have to be examined in detail to ascertain effects on quitting behavior.

Agrawal K et al (2013) analyzed that Tobacco related cancers at a tertiary care hospital in Western India. Tobacco related cancers represent the most preventable form of cancer in our society. To determine the proportion of Tobacco related cancers among male and female cancer patients at a tertiary cancer care hospital in western India. This is a retrospective patient tertiary records based retrieval type or study which was conducted at a leading tertiary cancer care hospital of Western India. The case records of total three thousand five hundred and two cancer patients were retrieved and analyzed to know then proportion of tobacco related cancers. Data obtained were analyzed using spss version 16 and presented in the form of percentages and proportions. Chi square test of significance was used. The total proportions of tobacco related cancer (TRCS) among male and female. Subjects combined together were 22.8%. The proportion of TRCS in male was 33.1% which in female it was 12.5% oral cancers and esophageal cancers were the leading sites among the TRCS in male and female respectively. One third of all cancers in men occurred in the sites associated with tobacco use (TRCS). In women one eighth of cancers occurred at these sites.

Thankappan. K. R et, (2009), analyzed that health professional's advice for tobacco cessation to tobacco uses enhances quit rate. Little is known about doctor's present tobacco cessation efforts in India. We examined doctor's reported inquiry in to patient's use of tobacco and assessed their perceived need for training in tobacco cessation. A cross-sectional survey was conducted in Kerala to collect information on doctor's practices skills and perceived need for training in tobacco cessation. Pre-tested structured questionnaires were distributed in person to 432 male and 89 female doctors of whom 264 male and 75 female doctors responded. One third of all the doctors surveyed reported that the always ask patients about tobacco use. Three faiths advise all patients routinely to quit irrespective of the smoking status of patients and one tenth offered useful information on how to quit. About 15 percent reported they received information from medical representatives 32 percent reported they had sufficient training and 80 percent expressed in test in receiving training to help smoked quit. Majority of all doctors surveyed most commonly asked and advised patients to quit tobacco when patients had lung, mouth disease or cancer. Most doctors' inquired about tobacco use from a minority of their patients though many reported to advise patients about quitting even inquiring about their tobacco use status. There are several missed opportunities to promote quitting at a time when patients are motivated to listen.

Objectives

1. To estimate the prevalence and the Indian economy of tobacco consumption in India.
2. To evaluate and understand the tobacco control in India.
3. To examine the prevalence and patterns of smoking behaviors in India.

Scope of Study

In the view of the importance of Export of Tobacco in our economy its sustained development is imperative for our country. The tobacco consumption development would be to increase in the agricultural commodities and also to improve the share of agricultural in total trade. The exports of tobacco have increased in foreign trade market. So as to retain and improve the country position in the world market. It also fairly important as an economic activity in India its production but unfortunately, this sector has under stress which has reached critical proportions of these years.

Source of data

This study is completely based on secondary data. Since, it requires aggregated time series data over the study period. Secondary data have been collected from NSSO, RBI, Tobacco Board, journals, articles and various issues of economic survey of India.

Tools Used for Present Study

Statistical tools are used to analyze the following statistical tools are applied for the data analysis.

Time-series Analysis

One of the important tests before and business man is these before economist and business man is these day is to make estimate of the future, for which time series analysis is most useful to estimates the trends of India's Export of Tobacco (1975-2013).

According to the "A time series consists of statistical data which are collected, recorded, and observed over successive increments".

$$A = \sum X/n$$

$$B = \sum XY/x^2$$

a=intercept

b=slope coefficient

y=dependent variable

Compound Growth Rate

One of the objectives of the study is to compare the Export of Tobacco of new economic policy. The best measure available for square estimate of slope co-efficient in the semi-log equation.

$$\text{CGR} = (\text{Antilog } B^{\Delta}) * 100.$$

Multiple Regression

Multiple regression is a logical extension of the two variable regression analysis where instead of a single dependent variable two or independent variable are used to estimated the values of the independent variables.

Let us consider the following equation:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + U$$

Where,

Y=Dependent variable

X₁=Independent variable

X₂=disturbance term

$\beta_0, \beta_1, \beta_2$ are regression parameter so in this present study time series analysis, multiple regression techniques has been used to find out inferences.

Secondary Data

Tobaccos and Tobacco Products Export in India- (1975- 2014)

Year	Tobacco		Tobacco products		Total		
	Qty(tons)	Value(Rs)	Qty(tons)	Value(Rs)	Qty(tons)	Rs.crs.	Mus\$
1975	74982	80.36	2973	1.86	77955	82.22	98.20
1976	74276	93.10	4181	2.27	78457	98.37	109.80
1977	80134	96.62	5372	5.40	85506	102.02	116.70
1978	89427	113.21	3814	4.30	93241	117.24	143.10
1979	78557	110.71	5734	5.59	84291	116.3	143
1980	64810	99.53	5627	5.30	70437	104.83	133.10
1981	78501	124.85	12337	16.27	90838	141.12	162.30
1982	114562	202.86	17759	30.53	132321	233.39	269.50
1983	100430	214.26	21784	33.44	122214	247.7	245.30
1984	89985	281.05	16172	22.46	106157	203.51	179.10
1985	74745	157.87	21738	27.29	96483	185.66	149.70
1986	64433	139.98	19663	32.62	84096	172.6	139.60
1987	66824	144.87	21489	39.72	88813	184.59	144.44
1988	48111	96.98	13307	19.32	61418	116.3	89.67
1989	39917	108.72	10379	16.14	50296	116.86	80.70
1990	58183	152.24	15512	19.79	73695	172.03	103.32
1991	70375	209.16	13299	54.53	83674	263.69	147
1992	71972	34.69	14662	47.71	86454	390.4	164.49
1993	81294	34.41	13424	73.33	94718	507.74	175.32
1994	91998	406.00	9221	79.72	101219	485.72	154.87
1995	44600	207.83	10822	59.95	55422	267.78	85.29
1996	72052	361.36	11883	59.68	83935	421.04	126.06
1997	117466	733.66	13115	92.86	130581	826.52	234.32
1998	136439	972.83	7795	88.36	144534	1061.19	272.52
1999	82366	634.48	18957	171.71	101323	806.19	199.10
2000	122590	864.77	13631	18.45	136221	1050.22	245.55
2001	100537	677.04	53393	226.34	115930	903.88	203.55
2002	86010	602.89	16076	285.63	102086	888.52	189.04
2003	107715	770.62	19842	325.33	127557	1095.95	224.95
2004	128186	825.48	22776	350.15	150962	1175.63	251.04
2005	138159	968.90	24774	393.28	162933	1362.18	305.77
2006	142007	1027.52	24862	385.95	1668869	1413.47	322.49
2007	152618	1241.05	28370	482.37	180988	1723.42	381.54
2008	174690	1478.51	30657	554.27	205347	2022.78	502.67
2009	197127	2713.28	27740	67.15	224867	3388.43	738.06
2010	229632	3655.49	29934	746.80	259566	4402.29	928.37
2011	212573	3192.39	39725	108.02	252298	4210.41	923.94

2012	203294	3090.21	37101	1010.09	240395	4100.3	854.94
2013	228023	3831.84	35552	1147.21	263575	4979.05	914.43
2014	93635	1832.74	11478	415.27	105113	2248.01	386.19

Sources: Tobacco board, ministry of commerce, government of India, 30 October 2013

The above table shows that Tobacco production in India during the study period is 1975 to 2014 in this table explain the tobacco product value and its common growth rates this table divided into 4 decades. In the first decade (1975-1985) the highest value of tobacco production is that 247.70 crores in the year of 1983 and the same decade very lowest production is 82.22 crores in the year of 1988 and the second decade (1985-1995) the highest value of tobacco production is that 507.74 crores in the year of 1993 and the same decade very lowest production is 116.30 crores in the year of 1988 and third decade (1995-2005) the highest value of tobacco production is that 1362.18 crores in the year of 2005 and the same decade very lowest production is 267.78 crores in the year of 1995 the fourth (2005-2014) the highest value of tobacco production is that 4979.05 crores in the year of 2013 and the same decade very lowest production is 136.18 crores in the year of 2005. Above tables shows the trend and growth rate was found to be during the overall study period the growth rate achieved by 0.05 per cent per year. During the overall study period from (1975-2014) the export of tobacco and tobacco products in India the tobacco quantity had recorded 5percent compound growth rate.

Export of tobacco & tobacco products during the period 1975-2014

Year	Tobacco qty (Rs) X	$x-\bar{x}$	X^2	Logy	X logy	logarithmic
1975	82.22	-19.5	380.25	1.91	-37.34	3-1
1976	98.37	-18.5	342.25	1.99	-36.87	3-1
1977	102.02	-17.5	306.25	2.00	-35.15	3-1
1978	117.24	-16.5	272.25	2.06	-34.14	3-1
1979	116.3	-15.5	240.25	2.06	-32.02	3-1
1980	104.83	-14.5	210.25	2.02	-29.30	3-1
1981	141.12	-13.5	182.25	2.14	-29.02	3-1
1982	233.39	-12.5	156.25	2.36	-29.6	3-1
1983	247.7	-11.5	132.25	2.39	-27.53	3-1
1984	203.51	-10.5	110.25	2.30	-24.24	3-1
1985	185.66	-9.5	90.25	2.26	-21.55	3-1
1986	172.6	-8.5	72.25	2.23	-19.01	3-1
1987	184.59	-7.5	56.25	2.26	-16.99	3-1
1988	116.3	-6.5	42.25	2.06	-13.43	3-1
1989	116.86	-5.5	30.25	2.06	-11.37	3-1
1990	172.03	-4.5	20.25	2.23	-10.07	3-1
1991	263.69	-3.5	12.25	2.42	-8.47	3-1
1992	390.4	-2.5	6.25	2.59	-6.48	3-1
1993	507.74	-1.5	2.25	2.70	-4.06	3-1
1994	485.72	-0.5	0.25	2.68	-1.34	3-1
1995	267.78	0.5	0.25	2.42	1.21	3-1
1996	421.04	1.5	2.25	2.62	3.94	3-1
1997	826.52	2.5	6.25	2.91	7.30	3-1
1998	1061.19	3.5	12.25	2.02	10.59	3-1
1999	806.19	4.5	20.25	2.90	13.08	3-1
2000	1050.22	5.5	30.25	3.02	16.62	3-1
2001	903.88	6.5	42.25	2.95	19.21	3-1
2002	888.52	7.5	56.25	2.92	22.11	3-1
2003	1095.95	8.5	72.25	3.03	28.08	3-1
2004	1175.63	9.5	90.25	3.07	29.17	3-1
2005	1362.18	10.5	110.25	3.13	32.91	3-1
2006	1413.47	11.5	132.25	3.15	36.23	3-1
2007	1723.42	12.5	156.25	3.23	40.45	3-1
2008	2022.78	13.5	182.25	3.30	44.63	3-1
2009	3388.43	14.5	210.25	3.52	51.18	3-1
2010	4402.29	15.5	240.25	3.64	56.48	3-1
2011	4210.41	16.5	272.25	3.62	59.80	3-1
2012	4100.3	17.5	306.25	3.61	63.22	3-1
2013	4979.05	18.5	342.25	3.69	68.40	3-1

Sources: Tobacco board, Ministry of commerce, Government of India, 30 October 2013

Trend analysis of export of tobacco & tobacco products during the period 1975-2014.

Particulars	Log linear		Compound growth rate %annum
	Constant	regression	
Tobacco product export		0.045	5%

The above table shows that Tobacco production in India during the study period is 1975 to 2014 in this table explain the tobacco product value and its common growth rates this table divided into 4 decades. In the first decade (1975-1985) the highest value of tobacco production is that 247.70 crores in the year of 1983 and the same decade very lowest production is 82.22 crores in the year of 1988 and the second decade (1985-1995) the highest value of tobacco production is that 507.74 crores in the year of 1993 and the same decade very lowest production is 116.30 crores in the year of 1988 and third decade (1995-2005) the highest value of tobacco production is that 1362.18 crores in the year of 2005 and the same decade very lowest production is 267.78 crores in the year of 1995 the fourth (2005-2004) the highest value of tobacco production is that 4979.05 crores in the year of 2013 and the same decade very lowest production is 136.18 crores in the year of 2005. Above tables shows the trend and growth rate was found to be during the overall study period the growth rate achieved by 0.05 per cent per year. During the overall study period from (1975-2014) the export of tobacco and tobacco products in India the tobacco quantity had recorded 5percent compound growth rate.

Limitations of the Study

The findings emerging from this study are subject to the following limitation.

- This study had covered only a period of (from 1975-2014) periods.
- The conclusion aimed at in this study would be applicable to this limited period of study only.
- This study was intended to analyses the performance of the export of tobacco in India only.

Recommendations

1. Criminal enforcement of the *Excise Act, 2001* is carried out by the RCMP, with the Act administered by the Canada Revenue Agency. Members of the RCMP are defined as “Officers” under the *Excise Act, 2001*.
2. This act deals primarily with the health aspects of regulating tobacco products, restricting youth access, providing information on the health hazards through health warning messages, and restricting promotion of tobacco. The most common offences deal with the

lack of proper health warnings on packaging, the promotion of tobacco products, the improper packaging and sales of tobacco to minors and through the mail.

3. The *Tobacco Act* is enforced and administered by Health Canada. The RCMP is not mandated to enforce this Act, although in some contract divisions, agreements are in place to provide security during HC inspections of premises. As this is a federal act, the RCMP may investigate offences pursuant to the *RCMP act*.
4. The RCMP, Federal Enforcement Branch, is responsible for investigations relating to these two Acts. There also exists a variety of provincial laws that deal with the transport and possession of tobacco products.
5. It is not within the mandate of the RCMP Customs and Excise program to investigate offences. In some contract provinces, members are appointed as provincial tobacco tax inspectors/ investigators and may be seconded to various provincial tobacco enforcement units.

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